TRANSMITTAL FORM

Attorney Docket No. **P180 1062RCE**

In the application **Eric C. ANDERSON** Confirmation No: **2859**

Serial No: **09/177,251** Group Art Unit: **2615**

Filed: **October22, 1998** Examiner: **Harris, T.**

For: **Method and System for Improving Image Quality of Portrait Images Using A Focus Zone Shift**

ENCLOSURES *(check all that apply)*		
☐ Amendment/Reply	☐ Assignment and Recordation Cover Sheet	☐ After Allowance Communication to Group
☐ After Final	☐ Part B-Issue Fee Transmittal	☐ Appeal Communication to Board of Appeals and Interferences
☐ Information disclosure statement	☐ Letter to Draftsman	■ Appeal Brief *(in triplicate))*
☐ Form 1449	☐ Drawings	☐ Status Letter
☐ (X) Copies of References	☐ Petition	■ Postcard
☐ Extension of Time Request *	☐ Fee Address Indication Form	☐ Other Enclosure(s) *(please identify below)*.
☐ Express Abandonment	☐ Terminal Disclaimer	RECEIVED JUN 2 4 2004 Technology Center 2600
☐ Certified Copy of Priority Doc	☐ Power of Attorney and Revocation of Prior Powers	
☐ Response to Incomplete Appln	☐ Change of Correspondence Address	
☐ Response to Missing Parts	*Extension of Term: Pursuant to 37 CFR 1.136, Applicant petitions the Commissioner to extend the time for response for xxxxxx month(s), from to .	
☐ Executed Declaration by Inventor(s)		

CLAIMS					
FOR	Claims Remaining After Amendment	Highest # of Claims Previously Paid For	Extra Claims	RATE	FEE
Total Claims	0	0	0	$18.00	$ 0.00
Independent Claims	0	0	0	$86.00	$ 0.00
				Total Fees	$ 0.00

METHOD OF PAYMENT	
■	Check no. 7425 in the amount of $ 330.00 is enclosed for payment of Appeal Brief filing fees.
☐	Charge $ _____ to Deposit Account No. _____ (Account Holder Name) for payment of fees.
■	Charge any additional fees or credit any overpayment to Deposit Account No. 02-2120 (Sawyer Law Group LLP)

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Attorney Name	Stephen G. Sullivan, Reg. No. 38,329
Signature	
Date	June 16, 2004

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date: June 16, 2004

Type or printed name	Jackie Tanda
Signature	Jackie Tanda

#15
6-29-04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

In Re Application of: Date: June 16, 2004

Eric C. Anderson Confirmation No: 2859

Serial No. 09/177,251 Group Art Unit: 2615

Filed: October 22, 1998 Examiner: Harris, Tia M.

For: METHOD AND SYSTEM FOR IMPROVING IMAGE QUALITY OF PORTRAIT IMAGES USING A FOCUS ZONE SHIFT

APPELLANT'S BRIEF

Attorney for Appellants
FLASHPOINT TECHNOLOGIES
Sawyer Law Group LLP

TOPICAL INDEX

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

In Re Application of: Date: June 16, 2004

Eric C. Anderson Confirmation No: 2859

Serial No. 09/177,251 Group Art Unit: 2615

Filed: October 22, 1998 Examiner: Harris, Tia M.

For: METHOD AND SYSTEM FOR IMPROVING IMAGE QUALITY OF PORTRAIT IMAGES USING A FOCUS ZONE SHIFT

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL

Sir:

Appellant herein files an Appeal Brief drafted in accordance with the provisions of 37 C.F.R. § 1.192(c) as follows:

I. REAL PARTY IN INTEREST

Appellant respectfully submits that the above-captioned application is assigned, in its entirety to Flashpoint Technologies.

II. RELATED APPEALS AND INTERFERENCES

Appellant states that, upon information and belief, he is not aware of any co-pending appeal or interference which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-7 and 9-22, and 28, 30, 32, 34, 36, and 38-42 are pending in the present Application.

IV. STATUS OF AMENDMENT

There was no proposed amendment to the claims in response to the Final Office Action.

V. SUMMARY OF THE INVENTION

The present invention provides a method and system for using an image capture device to capture an image with a soft focus. In a soft focus, objects in the foreground of the image may appear in focus while objects in the background may be slightly out of focus. Specification, page 10, lines 17-20. The image may include a plurality of objects, each of which is a corresponding distance from the imaging device. The image also has associated a focus zone associated with it. The focus zone is the region over which objects appear in focus. Specification, page 11, lines 7-8. The method and system includes determining if the image matches at least one criteria and, if the image matches the criteria, determining whether at least one of the objects in the image is out of focus. For example, the criteria may include an object (e.g. the subject of the image) occupying a particular fraction of the image capture device or being a particular distance from

the image capture device. Specification, page 11, line 21-page 12, line 10. The subject may be desired to be in focus, while objects farther away, in the background are desired to be slightly out of focus. Thus, a soft focus may be desired for the image. The method and system also determine whether the focus zone can be shifted so that the object(s) are out of focus if the object(s) are not out of focus. Stated differently, it is determined whether a soft focus can be provided by shifting the focus zone. The method and system shift the focus zone so that the object(s) are out of focus if at least one of the objects was not out of focus and if it is determined that the focus zone can be shifted sufficiently so that the object(s) are out of focus. The method and system also set an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus. If it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus, then the aperture size is adjusted to shorten the focus zone. Consequently, the object(s) may then lie outside of the focus zone.

Thus, using the methods, systems, and computer-readable media, provide a soft focus. The methods, systems, and computer-readable media provide the soft focus by shifting the focus zone (changing the distance between the focus zone and the digital imaging device) where possible. Specification, page 12, lines 16-21. This may be accomplished by moving the camera lens with respect to a remaining portion of the camera. Specification, page 12, lines 15-16. The desired soft focus is thus obtained. Consequently, the aperture size, and potentially other settings of the camera, are set without shifting the focus zone. Specification, page 18, lines 8-12. Thus, the image can be is captured with the desired settings and the desired soft focus. If the focus zone cannot be shifted sufficiently to provide the desired soft focus, then the size of the focus zone is also changed. Specification, page 18, lines 13-21. This may be accomplished by

changing the aperture size. Specification, page 18, lines 13-15. Thus, the desired soft focus can be achieved. Consequently, image quality can be improved.

VI. ISSUES

The issues presented are:

(1) whether claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 are not unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,067,114 (Omata) in view of U.S. Patent No. 4,826,301 (Ikemori) in further view of U.S. Patent No. 4,825,235 (Wakabayashi); and

(2) whether claims 3 and 12 are not unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori and Wakabayashi in further view of U.S. patent No. 5,825,016 (Nagahata); and

(3) whether claims 9, 22, 30, 36, 39, and 42 are not unpatentable under 35 U.S.C. § 103 as over Omata, Ikemori, Nagahata, and Wakabayashi.

VII. GROUPING OF CLAIMS

Appellant hereby states that claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 do not stand or fall together, but rather claims 1-7 and 28 are one group, claims 9, 30, and 39 are a second group, claims 10-18, 32, and 40 are a third group, claims 19-21, 34, and 41 are a fourth group, and claims 22, 36, and 42 are a fifth group. Therefore, claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 constitute five (5) separate groups.

VIII. ARGUMENTS

A. Summary of the Applied Rejections

In the Final Office Action, dated October 21, 2003 the Examiner rejected claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 as being unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori in further view of Wakabayashi. The Examiner also rejected claims 3 and 12 as being unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori and Wakabayashi in further view of Nagahata. Finally, the Examiner rejected claims 9, 22, 30, 36, 39, and 42 as being unpatentable under 35 U.S.C. § 103 as over Omata, Ikemori, Nagahata, and Wakabayashi.

With respect to the Appellant's previous arguments, the Examiner stated:

> **[t]he applicant argues that Wakabayashi described setting the aperture value "to be small to improve the soft-tone effect by decreasing the depth of field", and thereby describes setting the aperture value in order to decrease the depth of field, and that one of ordinary skill in the art would understand that the depth of field corresponds to the focus zone. Therefore, the applicant argues that Wakabayashi describes utilizing the aperture size to control the size of the focus zone, but fails to mention shifting (or not shifting) the focus zone, i.e. the cited portion of Wakabayashi fails to describe setting the aperture size such that the focus zone is not shifted. The examiner respectfully disagrees with this assessment of the reference. As previously mentioned, the applicant states that the depth of field corresponds to the focus zone. Therefore, if the depth of field is decreased or increased as necessary, the focus zone is correspondingly being shifted. If the depth of field is at the desired position, it no longer needs to be adjusted, and the focus zone as well is not shifted.**

In rejecting claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41, the Examiner acknowledged that Omata does not describe determining if the focus zone can be shifted so that certain object(s) can be out of focus, setting the aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted to that the object(s) are out of focus, and adjusting the aperture size to shorten the focus zone if shifting the focus zone alone is insufficient for the object(s) to be out of focus. Thus, the Examiner relied upon Ikemori for teaching that the focus zone can be shifted to provide the soft focus and Wakabayashi for teaching that the aperture value is changed to improve the soft-tone effect "by decreasing the depth of field." The Examiner further stated that:

only changing the aperture in the Wakabayashi reference creates soft focus effect. When focused on an object of interest and a soft focus mode is desired, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change only the aperture size in order that the object of interest would remain in focus during the soft focus effect.

In rejecting claims 3 and 12, the Examiner relied upon the rejections of claim 2 under Omata, Wakabayashi and Ikemori, with the additional teachings of Nagahata. The Examiner utilized Nagahata for teaching the categorization of objects as being located in the foreground or background.

In rejecting claims 9, 22, 30, 36, 39, and 42, the Examiner relied upon the teachings of Omata, Ikemori, Wakabayashi, and Nagahata described above.

Appellant respectfully requests that the Board reverse the Examiner's final rejection of claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 under 35 U.S.C. § 103.

B. The Cited Prior Art

Appellant agrees that Omata fails to teach shifting the focus zone so that the at least one object is out of focus. Instead, Omata is concerned with detecting compositional changes in an image and tracking objects to provide automatic focusing. Omata, col. 1, lines 5-9. Omata describes classifying objects in the image based on the size and proximity of objects, detecting compositional changes, such as an object being moved from the center to the edge of the image, and providing a continuous focus to ensure that the object the operator intends as the subject remains in focus. Omata, col. 1, line 40-col. 2, line 2. Consequently, Omata describes tracking an object that is in focus, so that the subject of the image brought into focus stays in focus.

Ikemori describes a system which is used to provide a soft focus. The system of Ikemori does so by introducing a spherical aberration into the image. Ikemori, col. 11, lines 34-40. Ikemori teaches that the spherical aberration is introduced by moving one of the lenses in the

system of Ikemori. Ikemori, Abstract, lines 5-11. The focus of the image is then readjusted using another lens. Ikemori, col. 3, lines 7-17. Thus, the spherical aberrations introduced provide a soft focus (e.g. objects in the background slightly out of focus), while the movement of the other lens ensures the desired focus (e.g. objects in the foreground in focus). Appellant has found no mention in Ikemori of using a focus zone shift, as opposed to the introduction of spherical aberrations, in order to provide a soft focus.

Wakabayashi describes changing the aperture size to improve the soft tone effect and decrease the depth of field. Wakabayashi describes the use of a soft focus filter in order to provide a soft focus. Wakabayashi, col. 17, lines 32-34 and col. 18, lines 31-38. Wakabayashi also discusses changing the aperture size in order to improve the image quality when the soft focus filter is inserted. Wakabayashi, co. 18, lines 35-49. However, Wakabayashi describes setting the aperture value "to be small (the aperture opening is large) to improve the soft-tone effect **by** decreasing the depth of field." Wakabayashi, col. 18, lines 46-48 (emphasis added). One of ordinary skill in the art will readily understand that the depth of field corresponds to the size (or depth) of the focus zone not the position of the focus zone. See, www.dpreview.com/learn/Glossary/Optical/Depth_of_*field*01.htm, for example. Consequently, Wakabayashi describes utilizing the aperture size to control the size of the focus zone.

C. Claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 are not unpatentable under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 under 35 U.S.C. § 103 are without merit as the Examiner has completely failed to explain why Omata in view of Ikemori in further view of Wakabayashi

teaches or suggests the methods recited in claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41.

Independent claims 1, 10 and 19 recite a method, system and computer-readable medium for capturing an image. In the method, system, and computer-readable medium of claim 1, 10 and 19, it is determined whether the focus zone can be shifted sufficiently so that particular object(s) are out of focus. If the focus zone can be shifted sufficiently, then the focus zone is shifted so that the object is out of focus. Claims 1, 10 and 19 also recite that the aperture size is set without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus. Thus, if shifting the focus zone is sufficient to ensure that the object is out of focus, then the aperture is set in a manner to preserve the shift. Consequently, the ability of the digital imaging device to provide a soft focus is improved.

The cited references fail to teach or suggest determining whether the focus zone can be shifted enough so that one or more objects are sufficiently out of focus, shifting the focus zone if the focus zone can be so shifted, and setting the aperture without shiftng the focus zone. Appellant can find no mention in Omata of shifting the focus zone only if it is determined that the focus zone can be so shifted. Instead, Omata describes classifying objects in the image based on the size and proximity of objects, detecting compositional changes, such as an object being moved from the center to the edge of the image, and providing a continuous focus to ensure that the object the operator intends as the subject remains in focus. Omata, col. 1, line 40-col. 2, line 2. Consequently, Omata is concerned with tracking an object that is in focus, so that the subject of the image brought into focus stays in focus.

Appellant has also found no mention in Omata of setting the aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Ikemori also fails to teach or suggest determining whether the focus zone can be shifted enough so that certain object(s) are sufficiently out of focus and shifting the focus zone **if** it is determined that the focus zone can be so shifted. Ikemori introduces spherical aberrations by moving a lens. Ikemori also refocuses the image to compensate for this shift. In other words, Ikemori refocuses the image in order to compensate for a change in the focus zone introduced by the movement of a lens. Therefore, although Ikemori teaches that a focus zone shift is **detected** and compensated for, Ikemori does not determine whether the focus zone can be shifted enough so that object(s) are sufficiently out of focus. Ikemori need not perform this step because the way in which Ikemori provides a soft focus is to introduce spherical aberrations. Consequently, Ikemori determining whether the focus zone can be shifted enough so that certain object(s) are sufficiently out of focus and shifting the focus zone if it is determined that the focus zone can be so shifted.

Ikemori also fails to teach or suggest setting the aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus. Thus, Omata in view of Ikemori cannot teach or suggest the method recited in claims 1, 10, and 19.

Wakabayashi fails to remedy the defects of Omata and Ikemori. Appellant has found no mention in Wakabayashi of setting the aperture size without shifting the focus zone **after** the focus zone has been shifted and if it has been determined that the focus zone can be shifted so that the at least one object is out of focus. Although Wakabayashi describes altering the size of the aperture, three is no indication that Wakabayashi does so after the focus zone has been **shifted** or such that no shift occurs. Instead, Wakabayashi describes setting the aperture value to control the size of the focus zone. Wakabayashi, col. 18, lines 46-48. However, the cited portion of Wakabayashi fails to mention setting the aperture size **after** the focus zone is shifted. More specifically, the cited portion of Wakabayashi further fails to mention setting the aperture size such that the focus zone is not shifted. Instead, the cited portion of Wakabayashi merely indicates that the size of the focus zone and, therefore, the soft focus is controlled through the use of the aperture size. There is no indication in Wakabayashi that the focus zone may be shifted **and** the aperture set without shifting the previously set focus zone.

Appellant further disagrees with the Examiner's conclusion that because the method and system shift focus zone sufficiently to create a soft focus, "the depth of field is [or has been] decreased or increased as necessary, the focus zone is correspondingly being shifted. If the depth of field is at the desired position, it no longer needs to be adjusted, and the focus zone as well is not shifted." Thus, the Examiner seems to argue that Wakabayashi teaches the recited setting of the aperture because the aperture would not need to be further changed. However, as recited in claims 1, 10, and 19, the aperture is set without shifting the focus zone. Thus, claims 1, 10, and 19 specifically recite setting the aperture size, not maintaining the aperture size already achieved. Instead, the aperture size may be changed while maintaining the focus zone

shift. Consequently, the cited portion of Wakabayashi still fails to teach or suggest shifting the focus zone **and** setting the aperture without shifting the previously set focus zone.

Moreover, the Examiner further seems to argue that Wakabayashi uses the aperture change in order to create a soft focus. Appellant respectfully disagrees with this interpretation of Wakabayashi. As discussed above, Wakabayashi expressly states that a soft filter is used. Wakabayashi then sets the aperture to *improve* (not obtain) the soft-tone. Wakabayashi, col. 18, lines 46-48. Consequently, Appellant respectfully disagrees that Wakabayashi sets the aperture to obtain a soft focus. Instead, the soft focus of Wakabayashi is created using a soft filter, then improved using by setting the aperture size. As a result, Wakabayashi would not set the aperture size without shifting the focus zone after it has been determined that the focus zone can be shifted sufficiently to provide a soft focus and the focus zone has been so shifted.

Because the cited portions of Omata, Ikemori, and Wakabayashi are each devoid of reference to setting the aperture size without shifting the focus zone after the focus zone has been shifted, the combination also fails to teach or suggest this feature. Stated differently, if the teachings of Ikemori and Wakabayashi are added to those of Omata, the combination would not set the aperture size without shifting the focus zone **after** the focus zone has been shifted and if it has been determined that the focus zone can be shifted so that the at least one object is out of focus. Consequently, Omata in view of Ikemori in view of Wakabayashi fail to teach or suggest the method, image capture device and computer-readable medium recited in claims 1, 10, and 19. Accordingly, Appellant respectfully submits that claims 1, 10 and 19 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1, 10, and 19 under 35 U.S.C. § 103.

Claims 2, 4-7, 28, and 38 depend upon independent claim 1. Claims 11, 13-18, 34, and 40 depend upon independent claim 10. Claims 20-21 and 41 depend upon claim 19. Consequently, claims 2, 4-7, 11, 13-18, 20-21, 28, 32, 34, 38, and 40-41are allowable for the same reasons discussed above with respect to claims 1, 10, and 19.

Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 under 35 U.S.C. § 103.

D. Claims 3 and 12 are Not Unpatentable Under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 3 and 12 under 35 U.S.C. § 103 as being unpatentable over Omata in view of Ikemori and Wakabayashi in further view of Nagahata are without merit. In particular, the Examiner has completely failed to explain why Omata in view of Ikemori, Wakabayashi, and Nagahata teaches or suggests the methods recited in claims 3 and 12.

Claims 3 and 12 depend on independent claims 1 and 10, respectively. Consequently, the arguments herein with respect to Omata, Ikemori, and Wakabayashi apply with full force to claims 3 and 12. In particular, Omata in view of Ikemori and Wakabayashi fail to teach or suggest adjusting the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone.

Nagahata fails to remedy the defects of Omata in view of Ikemori and Wakabayashi. Appellant can find no mention in Nagahata determining whether the focus zone can be shifted enough to ensure that certain object(s) are out of focus, shifting the focus zone if it is determined that the focus zone can be sufficiently shifted, and adjusting the aperture size without further shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone.

Consequently, if the teachings of Nagahata were added to those of Omata, Ikemori, and Wakabayashi, the combination would still fail to adjust the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone. Omata in view of Ikemori and Wakabayashi in further view of Nagahata, therefore, fail to teach or suggest the method and image capture device recited in claims 3 and 12.

Accordingly, Appellant respectfully submits that claims 3 and 12 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1, 10, and 19 under 35 U.S.C. § 103.

E. Claims 9, 22, 30, 36, 39, and 42 are not unpatentable under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 9, 22, 30, 36, 39, and 42 under 35 U.S.C. § 103 as being unpatentable over Omata in view of Ikemori and Wakabayashi in further view of Nagahata are without merit. In particular, the Examiner has completely failed to explain why Omata in view of Ikemori, Wakabayashi and Nagahata teaches or suggests the methods recited in claims 9 and 22.

Claims 9 and 22 recite a method and computer-readable medium, respectively, including a program having instructions for determining whether the focus zone can be sufficiently shifted so that certain object(s) are out of focus, so shifting the focus zone if it is determined that the focus zone can be sufficiently shifted, and adjusting the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone. The arguments herein thus apply with full force to claims 9 and 22. Consequently, Omata in view of Ikemori and Wakabayashi in further view of Nagahata fails to teach or suggest the method and computer-readable medium recited in claim 9 and 22. Accordingly, Appellant respectfully submits that claims 9 and 22 are allowable over the cited references.

Claims 30 and 36 depend upon independent claims 9 and 22, respectively. Consequently, the arguments herein apply with full force to claims 30 and 36. Accordingly, Appellant respectfully submits that claims 30 and 36 are allowable over the cited references.

Accordingly, Appellant respectfully submits that claims 9, 22, 40, and 36 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 9, 22, 30, and 36 under 35 U.S.C. § 103.

E. Summary of Arguments

For all the foregoing reasons, it is respectfully submitted that claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 (all the claims presently in the application) are patentable for defining subject matter which would not have been obvious under 35 U.S.C. § 103. Thus, Appellant respectfully requests that the Board reverse the rejection of all the appealed claims and find each of these claims allowable.

Note: For convenience of detachment without disturbing the integrity of the remainder of pages of this Appeal Brief, Appellant's "APPENDIX" section is contained on separate sheets following the signatory portion of this Appeal Brief.

This Brief is being submitted in triplicate, and authorization for payment of the required Brief fee is contained in the transmittal letter for this Brief. Please charge any fee that may be necessary for the continued pendency of this application to Deposit Account No. 02-2120 (Sawyer Law Group LLP).

Very truly yours,

June 16, 2004

Stephen G. Sullivan
Attorney for Appellants
Reg. No. 38,329
(650) 493-4540

IX. APPENDIX

1. A method for capturing an image using an image capture device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, method comprising the steps of:

(a) determining if the image matches at least one criteria;

(b) determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria;

(c) determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and

(d) shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

(e) setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus; and

(f) adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

2. The method of claim 1 wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

(a1) determining the corresponding distance for each of the plurality of objects.

3. The method of claim 2 wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

(a2) categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching one of the at least one criteria if a first object in the foreground has a first corresponding distance and a second object in the background has a second corresponding distance.

4. The method of claim 1 further wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

(a1) separating the image into a plurality of zones;

(a2) analyzing the image in each of the plurality of zones to determine if the image matches the at least one criteria.

5. The method of claim 4 wherein the at least one criteria includes the size of a particular object of the plurality of objects and wherein the step of analyzing the image (a2) further includes the step of:

(a2i) determining the amount of each zone and a number of zones which the particular object occupies.

6. The method of claim 1 wherein the image includes a center and at least one criterion includes a location of a particular object of the plurality objects being in proximity to the center of the image.

7. The method of claim 1 wherein the step of shifting the focus zone (d) further includes the step of:

(d1) shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

9. A method for allowing an image having a center to be captured by an imaging device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the method comprising the steps of:

(a) determining if the image matches a plurality of criteria, the step of determining if the image matches the plurality criteria further including the steps of:

(a1) determining the corresponding distance for each of the plurality of objects;

(a2) categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching a first criteria of the plurality of criteria if a first object in foreground has a first corresponding distance and a second object in the background has a second corresponding distance;

(a3) separating the image into a plurality of zones;

(a4) analyzing the image in each of the plurality of zones to determine an amount of the image which each of the plurality of objects occupies, the image matching a second criteria of the plurality of criteria if the first object occupies a particular amount of the image;

(a5) analyzing the image in each of the plurality of zones to determine if the first object in the foreground is in proximity to the center of the image, the image matching a third criteria of the plurality of criteria if the first object is in proximity to the center of the image;

(b) determining whether the second object is out of focus if the image matches at

least one criteria;

(c) determining a focus zone;

(d) determining whether the focus zone can be shifted so that that the at least one object is out of focus if the at least one object is not out of focus; and

(e) shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if the focus zone can be shifted so that the at least one object is out of focus;

(f) setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus; and

(g) adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

10. An image capture device for capturing an image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, the image capture device comprising:

means for determining if the image matches at least one criterion;

means for determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria;

means for determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and

means for shifting the focus zone, the focus zone shifting means shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus if it is determined that the focus zone can be so shifted;

means for adjusting an aperture size, the aperture size adjusting means setting the aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

11. The image capture device of claim 10 wherein means for determining if the image matches the at least one criteria further includes:

means for determining the corresponding distance for each of the plurality of objects.

12. The image capture device of claim 11 wherein the means for determining if the image matches the at least one criteria further includes:

means for categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching one of the at least one criteria if a first object in the foreground has a first corresponding distance and a second object in the background has a second corresponding distance.

13. The image capture device of claim 10 further wherein the means for determining if the image matches the at least one criteria further includes:

means for separating the image into a plurality of zones; and

means for analyzing the image in each of the plurality of zones to determine if the image matches the at least one criteria.

14. The image capture device of claim 13 wherein the at least one criteria includes the size of a particular object of the plurality of objects and wherein the means for analyzing the image further includes:

means for determining the amount of each zone and a number of zones which the particular object occupies.

15. The image capture device of claim 10 wherein the image includes a center and at least one criterion includes a location of a particular object of the plurality objects being in proximity to the center of the image.

16. The image capture device of claim 10 wherein the means for shifting the focus zone further includes:

means for shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

17. The image capture device of claim 16 wherein the means for shifting the focus zone further includes:

means for adjusting the shifting of the focus zone so that the focus zone can be shifted so that at least one object is outside of the focus zone if the at least one of the plurality of subjects is not out of focus.

18. The image capture device of claim 1 wherein the image capture device is a digital camera.

19. A computer-readable medium containing a program for capturing an image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, program including instructions for:

determining if the image matches at least one criterion;

determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criterion;

determining whether the focus zone can be shifted so that that the at least one object is out of focus if the at least one object is not out of focus;

shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

20. The computer-readable medium of claim 19 wherein the instructions for shifting the focus zone further include instructions for:

shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

21. The computer-readable medium of claim 20 wherein the instructions for shifting the focus zone further include instructions for:

adjusting the focus zone so that the focus zone can be shifted so that at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

22. A computer-readable medium containing a program for capturing an image having a center to be captured by an imaging device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the program containing instructions for:

determining if the image matches a plurality of criteria, the instructions for determining if the image matches the plurality criteria further including instruction for:

determining the corresponding distance for each of the plurality of objects;

categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching a first criterion of the plurality of criteria if a first object in foreground has a first corresponding distance and a second object in the background has a second corresponding distance;

separating the image into a plurality of zones;

analyzing the image in each of the plurality of zones to determine an amount of the image which each of the plurality of objects occupies, the image matching a second criterion of the plurality of criteria if the first object occupies a particular amount of the image;

analyzing the image in each of the plurality of zones to determine if the first object in the foreground is in proximity to the center of the image, the image matching a third criterion of the plurality of criteria if the first object is in proximity to the center of the image;

determining whether the second object is out of focus if the image matches at least one criterion;

determining a focus zone;

determining whether the focus zone can be shifted so that that the at least one object is out of focus if the at least one object is not out of focus; and

shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if the focus zone can be shifted so that the at least one object is out of focus;

setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

28. The method of claim 1 further comprising the step of:

(g) setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so

that the at least one object is out of focus.

30. The method of claim 9 further comprising the step of:

(h) setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

32. The image capture device of claim 10 wherein the focus zone shifting means further set the focus zone location based on the aperture size if the aperture has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

34. The computer-readable medium of claim 19 wherein the program further includes instructions for:

setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

36. The computer-readable medium of claim 22 wherein the program further includes instructions for:

setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

38. The method of claim 1 wherein the aperture-adjusting step (f) further includes the step of:

(f1) adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

39. The method of claim 9 wherein the aperture-adjusting step (g) further includes the step of:

(g1) adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

40. The image capture device of claim 10 wherein the aperture adjusting means further adjust the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

41. The computer-readable medium of claim 19 wherein the aperture-adjusting instructions further include instructions for:
adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

42. The computer-readable medium of claim 22 wherein the aperture-adjusting instructions further include instructions for:

adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.